

DaimlerChrysler AG

Patent claims

- 5 1. A method for controlling the operation of a  
reversible belt retractor to release a belt  
extraction lock, which can be activated by an  
acceleration sensor, wherein, after the belt  
10 retractor has been triggered as a consequence of a  
hazardous situation having been detected and after  
the hazardous situation has been recognized as  
being over, the operation of the belt retractor is  
controlled by a release signal at a release time  
15 in order to bring about the release of the belt  
extraction lock to shift it from a blocking state  
into a comfort-providing state, characterized in  
that the release time is determined by means of a  
sensor model algorithm based on a model of the  
20 acceleration sensor with at least one variable  
characterizing the running dynamics being used.
2. The method as claimed in claim 1, characterized in  
that the release time is determined as being a  
time at which the sensor model algorithm reveals  
25 that the acceleration detected by the acceleration  
sensor is smaller than a specifiable acceleration  
threshold value.
3. The method as claimed in claim 2, characterized in  
30 that the release time is determined as being a  
time at which the sensor model reveals that the  
acceleration detected by the acceleration sensor  
has dropped below a specifiable acceleration  
threshold value for at least a specifiable period  
35 of time.
4. The method as claimed in one of claims 1 to 3,

characterized in that the acceleration sensor is a mechanical sensor and the sensor model is a mathematical model of the mechanical sensor.

- 5    5.    The method as claimed in one of claims 1 to 4,  
characterized in that in order to determine the  
release time, use is made of the transverse  
acceleration, the wheel speeds or the yaw  
acceleration of the vehicle.
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6.    The method as claimed in claim 5, characterized in  
that in order to determine the release time, use  
is made of the transverse acceleration and the  
wheel speeds and the yaw acceleration of the  
15    vehicle.